QUARTERLY STATUS REPORT

ROCKY FLATS CLEANUP AGREEMENT IMPLEMENTATION

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

THIRD QUARTER FISCAL YEAR 2001

1.0 Introduction

Pursuant to paragraphs 122 and 263 of the Rocky Flats Cleanup Agreement (RFCA or Agreement), this quarterly status report presents the progress toward implementation of activities covered under the Agreement. The RFCA is a legally binding agreement between the Department of Energy (DOE), the Environmental Protection Agency (EPA), and the Colorado Department of Public Health and Environment (CDPHE) to accomplish required cleanup of radionuclide and hazardous substance contamination at and from the Rocky Flats Environmental Technology Site (RFETS). For the purposes of this report, the term, the Site, refers to both DOE and the Kaiser-Hill Company, L. L. C. (Kaiser-Hill).

This report describes activities that occurred from April 2001 through June 2001 (referred to as the third quarter of fiscal year [FY] 01). The sections of this report are organized into the following topics: (1) Introduction; (2) Site-wide Activities Implementing RFCA and Supporting Site Closure; (3) Site Closure Projects; (4) Water Management; and (5) List of Approved Decision Documents.

2.0 Site-wide Activities Implementing RFCA and Supporting Site Closure

Site-wide activities implementing RFCA and supporting site closure during the third quarter of FY01 included: (1) Closure Project Baseline (CPB) and Status of RFCA Milestones; (2) Integrated Monitoring Plan (IMP) Update; (3) Actinide Migration Evaluation (AME) Update; (4) Site-wide Water Balance Update; (5) Land Configuration Design Basis (LCDB) Update; and (6) Environmental Remediation (ER) RFCA Standard Operating Protocol (RSOP).

2.1 Closure Project Baseline and Status of RFCA Milestones

During the third quarter of FY01, Plutonium Stabilization and Packaging System began operations. The system will be used to safely package the remaining plutonium metal and oxide at RFETS for shipment to the Savannah River Site for long-term storage. The other major milestone for the past quarter, reduction of the Protected Area, has been delayed due to problems with the new fence surrounding the reduced area. It is expected to be completed in the coming weeks. Reduction of the Protected Area is expected to produce great operational efficiencies through the reduction of time consuming security measures.

Also during the third quarter of FY01, substantial improvements in Decommissioning progress have been made. This has been enabled by the elimination of safety related building shutdowns. Negative schedule variances in the Decontamination & Decommissioning (D&D) areas continue due to the recent safety-related shutdown in the 700 area buildings during the 2nd quarter and continuing delays in the reduction of the

Protected Area. That trend is improving such that we anticipate substantive schedule variance recovery during the fourth quarter FY01.

The DOE has conducted an External Independent Review of the Integrated Closure Project Baseline. This review was intended to determine the quality and reliability of the baseline as a project plan. It is expected that the final report will be issued in the fourth quarter of FY01.

The focus during the fourth quarter of FY01 will be to complete the reduction of the Protected Area and maintain the current progress in Decommissioning operations.

As reported last quarter, negative variances for transuranic (TRU) waste shipments continued pending a modification to the method used to calculate RFCA earned value (EV). A revision to this methodology, which will more accurately show progress, is expected to be formally adopted during the coming fiscal quarter. During this quarter however, the Site made forty-nine shipments of TRU waste to WIPP, totaling two hundred eighty-three cubic meters.

For the period October 1, 2000 through June 30, 2001, the ***cumulative*** schedule variance reported by Kaiser-Hill for the four areas of RFCA Earned Value Milestones is:

- Decontamination and Decommissioning -$4.9 Million (-27.4%)*
- Low Level Waste Shipments -$7.0 Thousand (+0.2%)*
- Transuranic Waste Shipments -$382.0 Thousand (-100%)*
- Environmental Restoration - No Earned Value activities in this area were scheduled for FY01.

* Note: The earned values reported here have not yet been validated by the DOE as part of the quarterly oversight evaluation process.

The RFCA Earned Value (EV) amounts RFFO has validated through the third quarter are as follows:

RFCA EV Category	FY01 EV Scheduled	50% of FY01 EV Scheduled	RFFO-validated EV completed at end of 3rd Quarter FY01	RFFO-validated EV Percent Complete	Projected FY01 EV Completed	Projected FY01 EV Percentage Complete
D&D	$22,104,426	$11,052,213	$2,912,026	22%	$17,734,118	80%
LLW shipments	$3,182,099	$1,591,050	$2,808,696	88%	$6,444,201	203%
TRU waste shipments	$1,156,889	$578,445	$0	0%†	$658,978	57%

†0-100% earned value crediting reported through the end of this quarter. Change to volumetric earned value crediting will be reflected in the 4th Quarter FY01 report.

2.2 Integrated Monitoring Plan Update

The IMP Surface Water Working Group began its current update period with a special meeting in June 2001. The purpose of the meeting was to discuss the proposed changes in CDPHE's RFETS monitoring. CDPHE has proposed significant changes in both the water and air monitoring protocols, aimed at reducing or eliminating components that do not relate directly to the closure activities at RFETS, or eliminating monitoring that is anticipated in new RFETS D&D/ER monitoring. The changes include the following:

For water:

1. Sampling is increased above the terminal ponds, specifically for organics and metals in the A and B-series streams; lithium and nickel are added to the metals suite of analytes at all locations
2. Predischarge analyses for organics, metals, uranium and tritium will be eliminated, complementing the increased sampling above the terminal ponds
3. Increased attention is to be given to sewer collection system monitoring
4. Some other parameters, not specified at this time, will be eliminated from the monitoring suite.

For air:

1. Beryllium (Be) will not be monitored in ambient air
2. Continuous volatile organic compounds (VOC) monitoring will be eliminated
3. Continuous monitoring for oxides of nitrogen (Nox) will be eliminated
4. Particle monitoring will be discontinued for particulate matter less than 10 micron aerodynamic diameter (PM-10), total suspended particulates (TSP) monitoring will change from every-six-days at the X- series stations to continuous, matching the schedule maintained by DOE.

At the meeting, CDPHE staff agreed to formalize the proposed changes, including development of data quality objectives (DQOs), and will bring the material to IMP meetings to be convened in July 2001.

In other work pertinent to the IMP, Site air quality staff have determined that the Oxford Alpha Spectroscopy Integrated System (OASIS), as an analytical tool for short-term analysis of ambient air concentrations of plutonium, does not provide an advantage over the Site's radioactive ambient air monitoring program monitors.

A sampling and analysis plan (SAP) for monitoring beryllium during demolition projects is to be the subject of the next air working group meeting.

2.3 Actinide Migration Evaluation Update

Kaiser-Hill and DOE established an AME (formerly called the Actinide Migration Studies) Group to provide expert guidance and data on issues of actinide (plutonium, americium, and uranium) behavior and mobility in surface water, groundwater, air, soil, and biota environments. Specifically, the goal of the AME is to answer the following questions in the order of urgency shown:

- Urgent: What are the important actinide migration sources and migration processes that account for recent surface water elevated values?
- Near-term: What will be the impacts of actinide migration on planned remedial actions? To what level do sources need to be cleaned up to protect surface water from exceeding action levels for actinides?
- Long-term: How will actinide migration affect surface water quality after Site closure (what soil action levels would sufficiently protect surface water over the long-term)?
- Long-Term: What is the long-term off-site actinide migration, and will it impact downstream areas (e.g. accumulation)?

The Advisors to the AME Group have been delegated to draw on the state-of-the-art understanding in the scientific community on actinide chemistry, geochemistry, hydrogeology, and biological transport and apply them to actinide migration issues at RFETS.

During the third quarter of FY01, the AME Group conducted the following activities: (1) held an AME Group and stakeholder meetings on April 30, 2001 through May 1, 2001 to discuss progress on the Pathway Analysis Report; (2) continued working on internal comments and the groundwater, surface water, air, and biological components of the Pathway Analysis Report; (3) continued work on erosion and sediment transport scenarios; (4) collected water samples from Ponds A-3 and B-4 for ultrafiltration experiments; (5) collected road soil samples for analysis and particle size distributions; and (6) collected runoff samples from the erosion plots for analysis (funded by CDPHE).

The meeting summaries for the January 2001 and April 2001 AME meetings have been released under separate cover. For further information, an RFETS Community Relations representative may be contacted.

2.4 Site-wide Water Balance Update

The purpose of the Site-wide Water Balance is to develop information to support a hydrologic design basis for RFETS closure activities. The objectives of the Site-wide Water Balance are to provide RFETS with a management tool to: (1) evaluate how the Site-wide hydrology is likely to change from its present configuration to the final Site configuration at closure; (2) assist in predicting surface water impacts from groundwater

for the present and final Site configurations; (3) provide hydrologic profiles that guide decisions concerning the final Industrial Area configuration to protect surface water quality; and (4) provide information for the RFCA Integrating Decision Document, the comprehensive risk assessment (CRA), and the Final Corrective Action Decision/Record of Decision (CAD/ROD).

During the third quarter of FY01, Site-wide Water Balance activities included the following: (1) continued calibration of the MIKE SHE model and integration of the unsaturated zone, groundwater, and surface water components; (2) continued work on the model code verification and validation; and (3) issued the Model Code and Scenario Selection Report (dated May 31, 2001) which incorporated comments received on the February 19, 2001 version of the report.

Next quarter, the Site-wide Water Balance activities will complete the model calibration and initiate the planned modeling scenarios and uncertainty analyses. Due to the complexity of the model, Kaiser-Hill is obtaining additional support from the Danish Hydraulic Institute. Also, as a result of the model complexity, the integrated model calibration is likely delayed until the Fall 2001. A status meeting with the regulators and stakeholders will be scheduled for that time.

2.5 Land Configuration Design Basis (LCDB) Update

The LCDB will provide a conceptual design for the land configuration at closure along with the design basis by which the final design will be completed. The LCDB will integrate previous studies and modeling completed at the Site, such as the Actinide Migration Evaluation and the Site-wide Water Balance. The LCDB will also identify the data gaps that must be addressed prior to development of the final design.

During the third quarter of FY01, the LCDB Group conducted the following activities: (1) the Draft Work Plan was provided to DOE for review and comment; (2) the Pond Methodology was completed; and (3) key components of scenario development were identified. From this, three bounding scenarios were identified, modeled, and provided to the AME Group for evaluation. Additional RFETS features were analyzed with respect to long-term stability.

Next quarter LCDB activities include: (1) evaluation of the bounding scenarios by the AME Group and further analysis using a weighting system for comparison to project objectives and RFETS closure requirements; (2) identify and fill any remaining data gaps that can be filled; (3) provide the Work Plan to the State and EPA for review; and (4) document the criteria for constructing the conceptual design from the bounding scenarios.

2.6 Environmental Remediation RFCA Standard Operating Protocol

A working draft of the ER RSOP for Routine Soil Remediation was provided to the regulatory agencies and stakeholders on May 24, 2001. The ER RSOP describes routine soil remediation activities at individual hazardous substance sites (IHSSs), potential areas of contamination (PACs), and under building contamination (UBC) Sites. Comments from the regulatory agencies and stakeholders have been provided and a formal Draft ER RSOP is being prepared. This is scheduled to be released for formal agency review and stakeholder comment during the fourth quarter of FY01.

3.0 Site Closure Projects

3.1 Industrial Area Operable Unit, Building 771 Closure Project

The 771 Closure Project Decommissioning Operations Plan (DOP) was approved by CDPHE on January 11, 1999. No D&D work sets were completed in the third quarter of FY01; however, significant progress was made on six D&D works sets. All components (i.e., gloveboxes, tanks and ductwork) have been removed from sets 38 and 67. Once those components are size reduced the sets will be complete. The B771 team completed draining one process liquid system (System #22) and completed removing two process liquid systems (Systems #10 and 22) in the third quarter of FY01. The B771 team also completed the Reconnaissance Level Characterization Report (RLCR) Supplement for B771 and B774 including all non-radiological hazards.

The sampling for the B771 UBC commenced during the second quarter of FY01. The preliminary (Phase 1) sampling for the B771 UBC was completed on June 6, 2001. Soil samples were collected beneath the foundation slab from 13 locations along the inside perimeter of the building and 3 locations within the building interior. The 16 soil samples were analyzed for plutonium, americium, and uranium isotopes, VOCs, metals, semi-VOCs, polychlorinated biphenyls (PCBs), cyanide, total petroleum hydrocarbons, and nitrate. Shallow groundwater was encountered and sampled at four locations. Groundwater samples were analyzed for actinides, VOCs, metals, nitrates as nitrogen, and inorganics.

During the drilling and sampling activities, the concrete cores and recovered soil were surveyed for contamination using field instruments. No radiological contamination was detected. No VOCs were detected above 1 part per million at any of the 16 locations. Laboratory results for all sample locations are expected during the fourth quarter of FY01.

Phase 2 characterization sampling will be conducted at the time of building D&D to address the remainder of the B771 potential UBC. Phase 2 sampling activities are planned for completion in 2003.

3.2 Industrial Area Operable Unit, Building 776/777 Closure Project

The B776/777 Closure Project DOP was approved by CDPHE on November 5, 1999. Seven minor modifications to the DOP have been approved so far, including Modification #7 on June 27, 2001.

During the third quarter of FY01, the B776/777 Closure Project Team conducted the following activities:

1. Seven D&D sets were completed during the quarter, bringing the total to 37 sets completed to date. There are a total of eighty-four work sets in the 776/777 project. The 7 sets completed this quarter were Sets 1, 16, 21, 23, 33, 34, and 68.
2. A chemical decontamination technology was successfully demonstrated on gloveboxes in 776/777, and is currently being used in several sets. The decontamination has reduced contamination levels for many gloveboxes to SCO I levels, allowing glovebox removal with much less size reduction than would be required for TRU gloveboxes.
3. Installation of the inner tent dismantlement chamber is 75% complete. This is a hard-sided containment chamber to be used for size reduction of contaminated gloveboxes and equipment.
4. The following Resource Conservation and Recovery Act (RCRA) tanks were closed by removal in the second and third quarters of FY01:
   Mixed residue vacuum accumulator V-022 removed on 4/4/01;
   Mixed residue tanks SR-3, SR-4, and SR-5 removed in January 2001; and
   Mixed residue tanks T-360, T-370 removed in March 2001.

3.3 Industrial Area Operable Unit, Building 371/374 Closure Project

During the third quarter of FY01, the B371/374 Closure Project Team conducted the following activities:

1. The 371 Closure Project DOP was approved by CDPHE on March 29, 2001.

2. The cerium (IV) cold test was completed; the results show that the test was successful. The "hot" test will be completed during the fourth quarter of FY01.

3. The project continues to make preparations to commence additional decommissioning.

Activities planned for the fourth quarter of FY01 include commencement of D&D worksets in B371 and B374.

3.4 Industrial Area Operable Unit, Building 707 Closure Project

During the third quarter of FY01, the B707 Closure Project Team conducted the following activities:

1. All B707 D&D workers completed D&D training.

2. RCRA closure of portions of the RCRA Unit 707.1 continued during the third quarter of FY01; rooms 181 and 182 were closed along with the storage racks in Module E and the remainder of room 126.

3. Equipment removal and facility reconfiguration necessary to support decommissioning activities completed this quarter includes removal of the respirator washer in the 778 laundry (Set 17) and removal of helium tanks (Set 14). Removal of storage racks in Module A (Set 1) was completed.

4. Facility reconfiguration necessary to support decommissioning activities initiated this quarter include rooms 181, 182, 183 and wall removal in room 125.

3.5 Remediation, Industrial & Site Services Project

3.5.1 Decontamination and Decommissioning

During the third quarter of FY01, the RISS D&D Team completed the following activities:

The contract for asbestos abatement and demolition of B111, B333 and the B132 substation pad was awarded. Kaiser-Hill continues to work with EPA to disposition painted concrete that was shown to contain slightly elevated levels of PCBs. Disposition options include scarifying to remove the paint, establishing a technical justification (risk argument as defined in regulation 40 CFR 761) for the reuse of the concrete, or disposal of all concrete as PCB bulk waste. Notice to proceed for asbestos abatement was given to the B111/333 subcontractor on June 26, 2001.

Significant progress in loose property removal was made in the 800 and 400 Areas. Hazard stabilization and loose property removal were completed in B865. Highly Enriched Uranyl Nitrate (HEUN) piping and the HEUN annular tank were removed from B886. Property removal and hazard stabilization in B881 is 65% complete and hazard stabilization in B444 is 35% complete. The most significant accomplishment in the third quarter was the removal of all loose beryllium-contaminated equipment and beryllium stock material from the B444 Be shop. In addition, the B881 legacy waste repack operation was initiated for the repack of all remaining drums in B881 and B444 in the fourth quarter of FY01 (~650 drums).

CDPHE concurred on the RLCR for B111 and B333 with both facilities being designated as Type 1. RLCRs were submitted to DOE and CDPHE for the security cluster including buildings 550, 761, 901, 762, 762A, 792, 792A and for the following 800 Area facilities: T883D, 863, 830, 885, 864. RLCRs were initiated for several additional facilities with progress for the third quarter given in Table 1.

Table 1. RISS Characterization Summary

Cluster Name	Facilities Included	Overall % Complete	Last Updated
Group 5	B442L&W,T551D	86%	6/26/01
886 Phase I	B886 Admin, all exteriors, T886A, B888	89%	6/26/01
886 Phase II	B886 R&D Areas, B880, B875, 828 Pit	17%	6/14/01
Security Cluster*	550, 761, 901, 762, 762A, 792, 792A	100%	5/24/01
800 Area*	T883D, 863, 830, 885, 864	98%	6/26/01
B865 Cluster	B865 Cluster	35%	6/15/01
B881 Cluster	B881 Cluster	10%	6/15/01
B883 Cluster	B883 Cluster	35%	6/15/01
Group 6	280 Area & T900D	89%	6/26/01
Group 7	125, 763, 663, 112, 910	5%	6/15/01
Group 8	T886B, T886C	44%	6/15/01

**Submitted to DOE/CDPHE*

Significant RLCRs that are planned for the fourth quarter include the B865 cluster, the B883 cluster, and the B881 cluster.

3.5.2 Environmental Restoration

3.5.2.1 Buffer Zone Operable Unit, Group 900-11 (903 Pad)

A closure strategy similar to the Industrial Area (IA) Strategy will be implemented for the closure of the Buffer Zone (BZ) operable unit (OU) and OUs 5, 6, 7 which reside geographically in the BZ of the RFETS. The BZ closure strategy integrates characterization and remediation of BZ IHSSs and PACs.

The first action of the BZ closure strategy is to develop a Buffer Zone Data Summary Report which will accumulate all existing analytical data available in the Soil Water Database for all sample locations outside the Industrial Area OU. These data will be

evaluated for usability and those data passing the data quality filters will be utilized to provide starting point characterization data for individual IHSS'.

DQOs to support characterization requirements will be outlined in the BZ Sampling and Analysis Plan (BZSAP). The BZSAP is the sampling plan to gather analytical data from IHSSs and PACs in the BZ for future decision making purposes. These data will be evaluated to determine whether no further action (NFA), additional characterization, or remedial/management action is required. The plan will be written to enable analytical results from samples collected outside of IHSSs and PACs (white space) to be used for the CRA that evaluates residual risk following completion of all accelerated actions. The BZSAP sampling requirements will contain the final site characterization requirements for the RFETS BZ.

BZSAP addenda will be prepared for each IHSS, IHSS group or PAC which provides background information of the IHSS or PAC, sampling requirements to meet the BZSAP's DQO's, and analytical data currently available and usable to support the identified sampling requirements. Each BZSAP addendum will define the study area and optimize the sampling design for the IHSS or PAC to meet the DQO's identified in the BZSAP.

The Buffer Zone Data Summary Report and BZSAP are currently being prepared and will be submitted concurrently to CDPHE and EPA upon completion in July 2001. The BZSAP FY01 addenda, scheduled for a September 30, 2001 submittal, is expected to include characterization scope for BZ OU IHSSs 216.1, 216.2, and 216.3, East Spray Fields, IHSS 153, Oil Burn Pit No. 2, and IHSS 154, Pallet Burn Site, and OU5 IHSSs 133.5 Incinerator and 133.6 Concrete Wash Pad.

A Phase I treatability test is being conducted at an offsite location to evaluate the effectiveness of using compressed air to dislocate the fine-grained portion of topsoil then collecting the displaced soil using vacuum techniques. It is anticipated that this type of remedial action may leave vegetation in-place while remediating contaminated soils. If successful, this will reduce the potential for erosion during remediation, and potentially accelerate revegetation of the disturbed areas. Testing on a 50-foot by 50-foot test plot has been completed and preliminary results are optimistic. Additional field-testing is required before the technology can be evaluated as a remedial alternative for undisturbed sections of the 903 Lip Area.

A monitoring network has been designed to establish baseline (pre-remediation) water quality for surface waters draining from the 903 Pad and Lip Areas. One surface water monitoring station was installed this quarter and is collecting samples south of the 903 Lip Area; four additional stations will be installed and operational next quarter.

3.5.2.2 Plume Maintenance and Monitoring

Operation, maintenance and monitoring continue for the three reactive barriers and two other plume treatment systems at Rocky Flats. The reactive barriers are the Mound Site Plume, East Trenches Plume and Solar Ponds Plume groundwater collection and treatment systems. The other two plume systems collect and treat groundwater at OU1–881 Hillside and at the OU 7 – Present Landfill Seep. Maintenance included removing the crust from the upper foot of media within the East Trenches Plume treatment cells. The upper foot of media was replaced with the same mixture of 90% sand and 10% iron that is in place at the Mound Site treatment cell. This mixture seems to be effective in reducing crust formation.

The quarterly activities and performance monitoring data for the five systems are provided in the Quarterly Report for the Rocky Flats Groundwater Plume Treatment Systems that was completed March 30, 2001. This document was provided to CDPHE and EPA during the second quarter of calendar year 2001. As previously discussed, the Quarterly Report for the Rocky Flats Groundwater Plume Treatment Systems that was completed June 29, 2001 contains information on the Solar Ponds Plume Treatment System and the status of the PU&D Yard Treatability Study. The status of the remaining plume treatment systems will now be reported annually after the close of the calendar year.

3.5.2.3 OU1

The DOE and EPA signed the final Modification to the OU1 CAD/ROD in January 2001. Because soil removal is not necessary, the modified remedy deleted the requirement to remove soil and includes pumping and treating groundwater from the OU1 Collection Well for a period of one year after signing the final Modification, and continued groundwater monitoring at IHSS 119.1 consistent with the RFETS IMP. No activities were performed during the third quarter and no other actions are scheduled in the fourth quarter FY01.

3.5.2.4 Characterization of Under Building Contamination 123 and Building 886 Implementing Horizontal Directional Drilling Environmental Measurement While Drilling

This project was performed and funded as a technology deployment of Sandia National Laboratory's Environmental Monitoring While Drilling (EMWD) technology in conjunction with a local drilling subcontractor (Corrocon Inc.) for horizontal directional drilling to characterize the potential UBC and the slab for 123 and at B886.

All samples have been collected at both UBC 123 and B886 using both horizontal directional drilling and conventional sampling methods. All analytical data have been

received from the laboratories. A draft completion report has been developed and currently under internal review. The completion report will be submitted to the Regulatory Agencies during the fourth quarter FY01. This project was recognized DOE complex wide and received a Pollution Prevention award for the innovative approach taken that reduced waste generation from this project.

3.5.2.5 Group 000-5 (Present Landfill), Group 000-1 Solar Ponds, and Group SW-2 Original Landfill Cap

This project involves the modeling and conceptual design of proposed evapotranspiration covers for the Solar Evaporation Ponds and the Present Landfill. A subcontract to perform the work was awarded during the second quarter of FY01. The following interim reports were generated the third quarter of FY01 that will make up the draft work plan: design criteria, vegetation report, DQOs, and modeling recommendation report. After the work plan is developed, the project will proceed with modeling and conceptual design for the Present Landfill and Solar Ponds. The project team has included regulatory agency input during the planning phase.

Because of uncertainties related to design and performance of a cover for the Original Landfill, this site will not be addressed under the modeling subcontract. The Original Landfill is under a different contract, awarded in the third quarter of FY01, to develop an IM/IRA Decision Document, which will include an analysis of potential remedial alternatives for the Original Landfill. The regulatory agencies will be involved to review the different stages of work development on this project.

3.5.2.6 Industrial Area Characterization

The IASAP is the sampling plan to support characterization and remediation of potentially contaminated soil in IHSSs, PACs, and UBC sites in the Industrial Area. During the second quarter of FY01, DOE responded to CDPHE comments on the Draft IASAP. During the third quarter of FY01, DOE responded to CDPHE comments on the Final Draft IASAP. CDPHE approved the IASAP on June 18, 2001. While there were no comments from EPA or stakeholders, EPA has requested additional review time.

An IASAP Addendum for FY02 is being prepared to describe soil sampling locations in IHSSs, PACs, and UBC Sites. The Addendum will be provided to the regulatory agencies during the fourth quarter of FY01.

The Draft CRA Methodology contains the methodologies for conducting the final human health and ecological risk assessments for RFETS closure. EPA has provided comments on the Draft CRA Methodology; CDPHE has not yet provided comments. It is anticipated that CDPHE will provide comments and the CRA Methodology will be finalized during the fourth quarter of FY01.

REVIEW OF THE PRELIMINARY DRAFT WORK PLAN
MODELING AND CONCEPTUAL DESIGN OF EVAPOTRANSPIRATION COVERS
AT ROCKY FLATS, GOLDEN, COLORADO

GENERAL COMMENT

1. The document describes a work plan for the modeling and conceptual design of evapotranspiration (ET) covers for two sites, namely, the Present Landfill and the Solar Evaporation Ponds (SEPs) at the Rocky Flats. Because each site will have site-specific requirements and issues relative to the use of ET covers, a conceptual overview of the site characteristics and remedial activities at each site should be described to provide a context for the use of an ET cover at the site. Therefore, to evaluate the effectiveness of an ET cover for the Present Landfill and the SEPs the conceptual design must provide adequate information on the entire system that will be covered, including information on surrounding sites. The overview should describe how an ET cover will affect and be affected by related components of the remedial action for the design life of the project. In addition to fulfilling the data gaps that are described in Appendix D of the Work Plan, at a minimum, the following aspects of the Present Landfill should be described in one comprehensive document (including references to more detailed studies and documentation):

- The general site configuration, topography, surrounding features, and possible interferences with the ET cover
- A general description of the Present Landfill history and the nature of waste disposed in the landfill
- A description of soil characteristics (including boring locations) and levels of contamination
- Details of the ground-water and surface- water characteristics (for example, depth to ground water, flow directions, leachate characteristic, description and location of seeps including anticipated effects the seep may have on an ET cover, location of monitoring wells, and location of surface water monitoring stations)
- A description of the local site geology
- Geotechnical information, including settlement and slope stability analyses
- Landfill gas characteristics, a description of the gas venting system, and an evaluation of its performance and its effect on vegetation performance
- Cover system boundaries and compliance points
- A summary of actions that will be taken at the Present Landfill prior to construction of the cover

Similarly, in addition to the fulfilling the data gaps that are described in Appendix D of the Work Plan, at a minimum, the following aspects of the SEPs should be described in one comprehensive document (including references to more detailed studies and documentation):

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4.0 Water Management

Water management activities during the third quarter of FY01 are summarized by (1) Watershed Improvements; (2) Surface Water Management; (3) Surface Water Monitoring; (4) Groundwater Monitoring; and (5) the Rocky Flats Water Working Group.

4.1 Watershed Improvements

During the first half of FY01, Surface Water Operations completed four structural improvements to the RFETS storm water control systems. Structural improvements included culvert cleanouts, placement of new riprap, ditch cleanouts and repair of damaged culverts. Approximately 1,500 linear feet of the RFETS storm water conveyance system was improved. Additionally, an earthen berm was installed to prevent stored salt pile runoff into RFETS waters.

4.2 Surface Water Management

During the third quarter of FY01, the Site completed pond water transfers and discharges totaling 89.49 Million Gallons (MG), an increase of 103% compared to the third quarter of FY00 (44.08 MG). This increase is attributable to above average stormwater runoff during the quarter.

Pond A-4 activity included one non-routine outlet-valve direct discharge to North Walnut Creek totaling 22.87 MG. This discharge occurred during the period of May 6 through 21, 2001 and was performed because Pond A-4 reached Action Level 4 conditions (pond freeboard was two-feet from flowing the spillway). All notifications were made prior to the discharge and water-quality samples were collected during the discharge. The City of Broomfield diverted the Pond A-4 discharge around Great Western Reservoir via the Broomfield Diversion Ditch.

Pond B-5 activity included one routine outlet-valve direct discharge to South Walnut Creek totaling 27.42 MG. This discharge occurred during the period of May 3 through 21, 2001. Water-quality samples were collected and analyzed, and all approvals were obtained prior to the discharge. The City of Broomfield diverted the Pond B-5 discharge around Great Western Reservoir via the Broomfield Diversion Ditch.

Pond C-2 activity included one routine pumped-discharge and outlet valve test to Woman Creek totaling 9.61 MG. The pumped discharge of 9.51 MG occurred during the period of June 15 through 24, 2001. The annual outlet valve test, which discharged 0.097 MG, occurred on June 25, 2001. Water-quality samples were collected and analyzed, and all approvals were obtained prior to the discharge. The City of Westminster impounded the Pond C-2 discharge in the Woman Creek Reservoir for subsequent discharge to Walnut Creek.

Landfill Pond activity included pumped-transfers to Ponds A-1 and A-2 totaling 1.89 MG. The transfer of 0.63 MG to Pond A-1 occurred during the period of June 18 through 19, 2001. The transfer of 1.26 MG to Pond A-2 occurred during the period of June 19 through 21, 2001.

There were no Pond A-1, A-2, B-1, or B-2 transfers or discharges during the third quarter of FY01.

Transfers and discharges from the RFETS ponds during the third quarter of FY01 are summarized in Table 2.

Table 2. RFETS Pond Water Transfers and Discharges – Third Quarter FY01

Dates	Pond Activity	Total MG	Mode
4/2 to 4/5	A-3 to A-4	4.02	Outlet-valve direct discharge
4/17 to 4/20	A-3 to A-4	4.21	Outlet-valve direct discharge
5/3 to 5/21	B-5 to SWC	27.42	Outlet-valve direct discharge
5/4 to 5/7	A-3 to A-4	9.77	Outlet-valve direct discharge
5/6 to 5/21	A-4 to NWC	22.87	Outlet-valve direct discharge
5/21 to 5/24	A-3 to A-4	4.50	Outlet-valve direct discharge
6/12 to 6/15	A-3 to A-4	5.20	Outlet-valve direct discharge
6/15 to 6/24	C-2 to WC	9.51	Pumped discharge
6/25	C-2 to WC	0.097	Annual outlet-valve test
6/18 to 6/19	Landfill to A-1	0.63	Pumped transfer
6/19 to 6/21	Landfill to A-2	1.26	Pumped transfer
	Total for Quarter	**89.49 MG**	

4.3 Surface Water Monitoring

During the third quarter of FY01, 130 automated monitoring system samples were collected and submitted for analysis. This sampling count represents an almost three-fold increase in surface water sampling activity when compared to the second quarter of FY01. This increase in activity occurs when transitioning from winter to the spring storm season.

For the single-day period of April 11, 2001, the Site observed a 30-day averaged concentration of Americium at Point of Evaluation GS-10 that exceeded the 0.15 pCi/l RFCA reporting threshold. The Americium average concentration was observed to peak on that day at an value of 0.19 pCi/l, falling to 0.15 pCi/l on the next day and remaining below that level for the rest of April and into May. The data for this reporting period have been validated. This behavior is consistent with observations each Spring since 1997 at this location, following implementation of RFCA flow-paced monitoring. The

CDPHE, EPA and local communities were properly notified and the date from this event will be incorporated into the GS10 special investigation report.

Additional progress was made on the RFCA source evaluations. During May 2001, the Kaiser-Hill Team completed (and forwarded to DOE for review) the Source Evaluation Report for RFCA Point of Compliance GS08. Reportable values were observed at GS08 POC monitoring location at the Pond B-5 on September 14, 2000 and again for the period November 21-24, 2000. The GS08 Source Evaluation was conducted in accordance with the proposed actions outlined in the Plan for source evaluation dated December 28, 2000 (00-DOE-04330). The GS08 report was distributed to the regulators and stakeholders during June 2001.

Progress continues on GS10 special investigation. The GS10 special investigation is scheduled for completion during the fourth quarter of FY01.

Three existing automated surface water monitoring locations (hydrologic stations GS05, GS06, and future performance monitoring location GS22) were upgraded to add these locations to the telemetry network. With telemetry, real time operational and monitoring data will be available from these locations.

One new surface water performance monitoring location (SW055) was added to the RFETS automated surface water monitoring network during the third quarter of FY01. Monitoring station SW055 will sample stormwater runoff from drainage ditch southeast of the 903 Pad Area for surface water performance monitoring of the 903 Pad and Lip Area remediation project. Water flowing from SW055 is sampled again at RFCA POE SW027 before flowing into Pond C-2. Four additional performance monitoring locations are currently planned to provide complete coverage of the 903 Pad Area remediation project.

4.4 Ground Water Monitoring

The Fourth (calendar) Quarter 2000 groundwater monitoring report was presented to the stakeholders at the Quarterly Information Exchange Meeting on May 29, 2001.

Other activities completed during the third quarter of FY01 included:

1. The SAP for the D&D Monitoring of Buildings 707, 371/374, 776/777 and 883/865 was approved by CDPHE and EPA and monitoring wells have been installed at Buildings 776/777,707 and 371/374. Wells will not be installed this quarter for B883/865 because schedule changes have moved D&D of these buildings further out than originally planned.

2. All groundwater samples and water level measurements for the second quarter of calendar year 2001 were completed on March 29, 2001.

3. The updated ICP/MS Uranium sampling and analysis project, which is being conducted jointly with CDPHE, was completed as of March 15, 2001. Final sample shipment was completed on March 29, 2001 to Los Alamos National Laboratory.

4. The SAP for the D&D Monitoring of Buildings 991, 559 and 881 was approved by CDPHE and EPA on June 21, 2001. Well installation will commence upon review and approval by the building D&D coordinators for these buildings.

4.5 Rocky Flats Water Working Group

The RFETS Water Working Group was part of the Quarterly Exchange of Information Meeting held on May 29, 2001. In addition to the quarterly exchange of information, the following topics were discussed: (1) status update for Site pond operations, (2) distribution of SW027 Source Evaluation to interested stakeholders and notice of it's availability on EDDIE, (3) update on schedule for the ongoing GS08 source evaluation and GS10 special investigation, and (4) update on the Solar Ponds Plume. The next Water Working Group will be held on August 28, 2001.

5.0 List of Approved Decision Documents

This list of approved decision documents provides the information for the update to RFCA Attachment 12.

1. The B371 DOP was approved by CDPHE on March 29, 2001.

2. The IA SAP was approved by CDPHE on June 18, 2001.

3. Modification #7 to the B776/777 Closure Project DOP was approved by CDPHE on June 27, 2001.

4. SAP for the D&D Monitoring of Buildings 991, 559, and 881 was approved by CDPHE on June 21, 2001.

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